

Abstract

A laminated sintered body is produced having a ceramic porous body 8 having a thickness of 300 μm or larger and a ceramic dense body 9 having a thickness of 25 μm or smaller. A green body 5 for the porous body and a green body 3 for the dense body is laminated to obtain a laminate, which is then subjected to pressure molding by cold isostatic pressing to obtain a pressure molded body 6. The pressure molded body 6 is sintered to obtain a laminated sintered body. Alternatively, it is provided a laminated sintered body has a ceramic porous body having a thickness of 300 μm or larger and a ceramic dense body having a thickness of 25 μm or smaller. By reducing the leakage rate of helium gas of the laminated sintered body to $10^{-6} \text{ Pa} \cdot \text{m}^3/\text{s}$ or lower, the operational efficiency of the cell can be improved, and the deterioration of the cell can be prevented to improve an output after the cell is subjected to initiation and termination cycle test of operation.